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**SUBJECT:**     **ARCHITECTURAL TECHNICAL GUIDE 0003     (January 1, 2005)**  
**Carpet and Carpet Pad Certification:**  
**Requirements for Single Family Housing New Construction and Additions**

**PURPOSE:**

The purpose of this Architectural Technical Guide (ATG) is to summarize USDA/Rural Development's requirements for verifying carpet and carpet pad quality installed in Agency-financed housing new construction as well as alteration and repairs to existing construction in accordance with the certification requirements contained in U.S. Department of Housing and Urban Development (HUD), Use of Materials Bulletins, UM-44d and UM-72 (adopted by USDA/Rural Development for Rural Housing Programs as one of the RD Instruction 1924-A "development standards"). This ATG contains the following major headings:

- Procedure for verification of prospective carpet material,
- Procedure for verification of installed carpet material,
- Other general information pertinent to HUD, Use of Materials Bulletin, UM-44D, and
- Procedure for verification of installed carpet cushion.

**IMPLEMENTATION RESPONSIBILITIES:**

USDA/Rural Development is obligated to verify the compliance of carpet/carpet pad materials installed in Agency financed new housing construction as well as alterations and repairs to existing housing construction in accordance with the certification requirements contained in U.S. Department of Housing and Urban Development (HUD), Use of Materials Bulletins, UM-44d and UM-72, per Subparagraph 1924.5 (d) (1) of the Instruction, which states,

"All new buildings to be constructed and all alterations and repairs to buildings will.....conform to....standards referenced in Appendices C through F of HUD Handbook 4910.1, Minimum Property Standards for Housing....."

These requirements have been around for a long time as they were implemented by the original HUD "*Minimum Property Standards*" in the mid-1970s. Their intention was to establish a minimum level of carpet quality to be expected in housing financed by the Federal government. The carpet manufacturing industry is, thus, well acquainted with UM-44d and UM-72.

Appendix F of HUD Handbook 4910.1 lists Use of Materials Bulletins, UM-44d and UM-72, as standards for performance quality.

## **PROCEDURE FOR VERIFICATION OF PROSPECTIVE CARPET MATERIAL:**

Actual testing/evaluation and certification of conformance with the HUD standards is currently accomplished by numerous independent testing laboratories and summarized in the directories of three certified carpet "administrator" organizations:

### **Intertek Testing Services/ETL**

1950 Evergreen Blvd., Suite 100, Duluth, GA 30096

678.775.2400

27611 La Paz Road, Suite #B, Laguna Niguel, CA 92677

949.394.1684, ext 213

### **MEA Certifications**

660 Westhollow Court, B-1, Roswell, GA 30075

770.518.7407

Carpet manufacturers normally list all their carpet materials under only one "administrator" organization.

It is USDA/Rural Development's responsibility to verify the listing of prospective carpet materials in the directories published by the "administrator" organizations.

Verification of prospective carpet materials may be accomplished by contacting the applicable "administrator" organization directly at the above listed telephone numbers.

There are some "pitfalls" to easy prospective carpet verification. Some carpet materials, for example, are renamed as they are purchased from one manufacturer by a distributor. In these cases, the distributor would need to be contacted first to obtain the name of the actual manufacturer and manufacturer's carpet name, certification number, etc

When attempting to verify carpet certification, one should first secure the following minimum information:

1. Carpet manufacturer's or distributor's organizational name,
2. Carpet manufacturer's or distributor's carpet material name, and
3. Carpet "administrator" organization's carpet certification number (a five-digit number). I.e.:

Mohawk Industries  
3507 Treasure Trove  
45777 (MEA Certifications)

## **PROCEDURE FOR VERIFICATION OF INSTALLED CARPET MATERIAL AND RECOMMENDED INSTALLATION PRACTICES**

Once USDA/Rural Development has concurred with the carpet selection, the carpet material actually being installed should then be verified.

One of the protocols of the HUD, Use of Materials Bulletin, UM-44d, carpet certification program is the back printing of a permanent legible imprint appearing every three to six feet along either edge of the carpet and not less than one foot from the edge. This lettering would be at least one-half inch in height. The imprint would contain the identity of the manufacturer (by name or code or both), the carpet quality (by name or code or both), and the "administrator" organization's unique trademark. An example of such an imprint (courtesy: Intertek Testing Services/ETL), containing the five-digit carpet certification number, is provided in Exhibit B to this ATG.

USDA/Rural Development employees responsible for inspection should attempt to locate the HUD, Use of Materials Bulletin, UM-44d, required imprint. If the imprint cannot be located, the carpet material should be rejected, since it is a HUD, Use of Materials Bulletin, UM-44d, requirement that all certified carpet will be so marked. General Contractors should be informed in advance of the inspection (ideally during the Preconstruction Conference) that USDA/Rural Development will be inspecting for this, most likely immediately prior to installation.

The following workmanship issues should also be evaluated at the appropriate inspection stage:

Carpet should be installed only over dry, relatively even, substrates.

Carpet for wheelchair users would be more effectively installed via the direct glue-down method without an intervening cushion.

Carpet should be adequately stretched, utilizing tackless strips.

Carpet should not have any glaring defects in manufacture or installation.

Carpet should be professionally installed.

Carpet should be installed in large, full roll width, sections with a minimal requirement for seaming.

Carpet seams should be inconspicuous.

**OTHER GENERAL INFORMATION PERTINENT TO HUD, USE OF MATERIALS  
BULLETIN, UM-44D**

The following HUD, Use of Materials Bulletin, UM-44d, carpet types and classes apply:

Type I (intended for general use – non-wheelchair applications):

Class 1 (moderate traffic)  
(for single family dwelling units - non-wheelchair applications and for  
multifamily dwelling units – non-wheelchair applications)

Class 2 (heavy traffic)  
(very limited applications for single family dwelling units or multifamily  
projects as this type is not approved for wheelchair applications)

Type II (intended for wheelchair accessibility and care type housing projects):

Class 1 (moderate traffic)  
(for single family dwelling units - wheelchair applications and  
multifamily dwelling units – wheelchair applications and care type  
housing projects)

Class 2 (heavy traffic)  
(for multifamily housing projects – common areas)

Weight ranges for moderate traffic carpets are as follows:

Nylon:	20 to 24 oz/s.y.
Polypropylene:	20 to 24 oz/s.y.
Polyester Staple:	28 to 32 oz/s.y.
Acrylic Staple:	33 to 40 oz/s.y.
Wool:	35 to 42 oz/s.y.

Seven textures are available for Type I carpets:

Level or textured loop: 1/16".	Level uncut pile with a pile height differential of max. 1/16".
Multi-level:	2 or more levels of pile with a pile height differential of max. 1/16".
Plush:	Level cut pile, made from non-heatset yarns.
Twist:	Cut pile, made from hard twist set yarns.
Level cut and loop:	Level pile made from heatset and/or non-heatset yarns.
Cut pile heatset - piled:	Single level or multilevel cut or cut-and-loop pile from balanced heatset and piled yarns.
Cut pile heatset - singles:	Single level cut pile made from heatset single yarn.

Only multi-level carpet has an inappropriate texture for Type II carpet applications.

## **PROCEDURE FOR VERIFICATION OF INSTALLED CARPET CUSHION:**

USDA/Rural Development has an additional responsibility to verify that detached carpet cushion conforms to the criteria of HUD, Use of Materials Bulletin, UM-72. HUD has established a simpler, manufacturer self-certification procedure for determining conformance with this standard.

There are two classes of carpet cushion under the HUD standard: Class 1 (moderate traffic) and Class 2 (heavy traffic). Only Class 1 carpet cushion is pertinent to single family construction and multifamily dwelling units. Class 2 carpet cushion would be appropriate for multifamily housing common areas.

There are three types of carpet cushion under the HUD standard: Type I (felt), Type II (cellular rubber), and Type III (urethane foam). All three meet Class 1 requirements via different weights.

Many of the technical particulars of HUD, Use of Materials Bulletin, UM-72, are complex and would be difficult for field staff to verify. The following items are a little more reasonable, however, and should be verified at the appropriate inspection stage:

1. Material:

One cushion surface should contain a reference to HUD, Use of Materials Bulletin, UM-72, the name of the manufacturer or a designated and registered identification number, and the product classification by type and class, at least every 10 lineal feet.

2. Workmanship:

Cushion should be installed with no gaps and with tight seams.

Cushion should not have an objectionable odor or be tacky.

Cushion facing should be such that carpet may slide across the surface of the cushion during installation.

Cushion should have no cuts, holes or tears more than 1/2" in any direction.

Cushion should have no thin or weak spots or imbedded foreign matter.

Cushion should only be installed over dry, relatively even, substrates.

The State Architect should be consulted with respect to any questions on this general subject.

DAVID W. RIGIROZZI  
State Architect  
USDA/Rural Development

Attachment: Exhibit A: Sample Carpet Back Printing

**Sample Carpet Back Printing**

All production of certified qualities of carpet is required to be back printed for identification. Following is an example of such an imprint. The example would be typical for certifications performed by Intertek Testing Services/ETL.

